

Work Order ID 53751

November 17, 2009 7:40:35 AM



Page 1

Item ID: D6104-005

Accept



Setup Start



Revision ID: B

Stop



Item Name: Round Billet, 17-4

Start Date: 11/17/09 Start Qty: 10.00



Cust Item ID:

Required Date: 12/01/09 Req'd Qty: 10.00



Customer:

Reference:

Approvals:

Process Plan: *CZ*

Date: *09/11/17*

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D6104	Rev B								

100

0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 10773 (a) Description: S.S round billet (b) Ø4.00" x 5.10" long (c) Tolerance on all dimensions are +0.030"/-0.000" (d) Material: 17-4PH Stainless steel (Ams 5643 or Aisi 630) (e) One blank makes 2 parts (f) Material certification required

CZ 09/11/17 10

110

0.00



Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure material certification is attached

09/14/17 (10)

120

0.00



QC6- Inspect dimensions to drawing

QC

Memo

0.00

Quality Control

Ensure Material certification comply to Dwg D6104

09/12/17

10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

* **NOTE:** Date & initial all entries

Work Order ID 53751

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Page 2

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Start Date: 11/17/09 Start Qty: 10.00



Cust Item ID:

Required Date: 12/01/09 Req'd Qty: 10.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

Identify as per dwg & Stock Location: MAT

0.00

09/12/0110

Packaging

Memo

0.00

Packaging

140

QC21- Final Inspection - Work Order Release

0.00

09/12/01

QC

Memo

0.00

Quality Control

MF 09-12-01

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

• **NOTE:** Date & initial all entries

Picklist Print

November 17, 2009 7:40:35 AM

Page 1

Work Order ID: 53751

Parent Item: D6104-005RevB

Parent Item Name: Round Billet, 17-4


Comments:

Start Date: 11/17/09

Required Date: 12/01/09

Start Qty: 10.00

Required Qty: 10.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D6104-005PRevB		Purchased	No			110	Each	0.0000	10.0000			
												
17-4 SS Roundbar 4.00"OD												



6914/22 (10)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

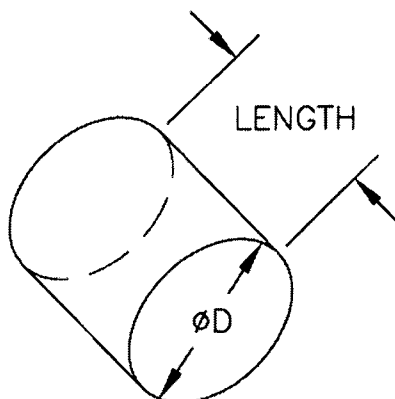
• **NOTE:** Date & initial all entries



DESIGN <i>EF</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED
02.11.29 *[Signature]*

SPECIFICATION CONTROL DRAWING



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 53251
C209/11/17

MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRC)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

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**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP

Page 1 of 1

Pack Slip No:8044331

Ship From: Castle Metals MONTREAL 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 26-NOV-09	F.O.B. ORIGIN	Freight Terms Prepaid		Carrier MANITOULIN	BOL No 137884-2	Delivery No 8044331	

Shipment Details	Final Destination Branch - MON
-------------------------	---------------------------------------

Order No 417080	Line No 4	Item No 42464.MO	Description 4.0000.RD.17CR-4NI.STAINLESS.RT.SOL TR.COND A.132.0000-156.0000 CUT TO 5.1 IN (+ .1250/- .0000 IN) - BAND SAW CUTTING SPECIFICATIONS: AISI 630,AMS 5643,ASME SA564,ASTM A564,UNS S17400			
Purchase Order No 10773		Part Number YOUR ITEM NUMBER: D6104-005	Ordered Qty 10 PCS	Invoice Qty 10 PCS	Backorder Qty	
Details						
Mill	Heat Number 422465-0042	Mech Id	PCS 10	Width (IN)	Length (IN)	Shipped Qty (LBS) 187.29

These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

This material has been received and inspected by:

Date:

OK 09/12/01

09-14-'09 11:42 FROM-AM Castle

8474558824

T-114 P016/031 F-849

Product Certification Report

VALBRUNA

SLATER STAINLESS, INC.

2400 Taylor Street West, P.O. Box 630

Fort Wayne, Indiana USA 46801

Phone: 260-434-2892 Fax: 260-434-2905

Report Number: 4469610

Certified on Sep 04, 2009 Page 1 of 1

Order I.D. 0900987 001		Order Date 6/16/09		Commodity Code 42464	
Dim 1 4.0000	Dim 2 .0000	Dim 3 .0000	Heat I.D. 422465	Customer I.D. 001123	Customer Purchase Order 01-21642
Product Shape Rounds			Product Surface HR & Rough Turned		Customer Grade 17-4
Length (Inches) 132.000 Min. 156.000 Max.			Bill of Lading # 410597	Weight	

Ship
To

CASTLE METALS
3400 NORTH WOLF ROAD
FRANKLIN PARK, IL 60131

Sold
To

VALBRUNA STAINLESS, INC.
2400 TAYLOR STREET WEST
FORT WAYNE, IN 46802

Lifts: 0042

AISI 630

UNS S17400

AMS 2303E

CONDITION A

ASTMA 564-04

AMS 5643R (except finish)

3174-10 Rev 4 DTD 08/27/03
ASMESA 564'01 ED 2002 ADD

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Cb	Ta	Cb+Ta
.032	.58	.021	.025	.32	15.57	4.81	.19	3.32	.04	.19	.001	.191

HBW

355

TENSILE PROPERTIES
CAPABILITY

Cap HB	TS (PSI)	.2%YS (PSI)	%EL(4d)	%RA	AGE(F)
428	204000	180100	16.7	53.9	900

MAGNETIC PARTICLE TEST

FREQ SEV

AVG .10 .22

PRODUCTION HEAT TREATMENT

SOL-ANN(F)	SOL-ANN(HR)	QUENCH
1900	7.50	Air

MACRO ASTM E340/E381

MACRO

OK

OK

PERCENT FERRITE

% FERRITE

AVG .8

Reduction ratio 5 To 1 Min.

Electric Furnace melted; AOD refined.

Ultrasonic test OK.

Chemical testing performed to one or several of the following ASTM methods: E415, E572, E1019, E1085, E1086.

No mercury or low melting alloy contamination. No weld repair.

Material melted in Italy, manufactured in the United States.

Material conforms to listed specifications and is DFARS compliant.

Quality system is compliant with ISO 9001:2000. Produced in accordance with EN 10204 3.1.

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal law, Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info.

I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services

Dennis Hackett

Castle Metals FP

HEAT NUMBER

422465

MECHANICAL ID

0042

ITEM CODE

42464

LOT NUMBER

PO NUMBER

REQUIREMENT

SUPPLIER

Valbruna

SPECIFICATION

LCS

N

COMMENT

APPROVED

BT

**VALBRUNA****SLATER STAINLESS, INC.**

2400 Taylor Street West, P.O. Box 630

Fort Wayne, Indiana USA 46801

Phone: 260-434-2892 Fax: 260-434-2905

Product Certification Report**Report Number: 4469610**

Certified on Sep 04, 2009 Page 2 of 1

Order I.D. 0900987 001		Order Date 6/16/09		Commodity Code 42464	
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Length (Inches) 132.000 Min. 156.000 Max.			Bill of Lading # 410597	Weight	

**Ship
To**
CASTLE METALS
 3400 NORTH WOLF ROAD
 FRANKLIN PARK, IL 60131
**Sold
To**
VALBRUNA STAINLESS, INC.
 2400 TAYLOR STREET WEST
 FORT WAYNE, IN 46802

 09/12/01

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